/108 cont./

115 156 554 [598] Victoriano likes to parade his outward standing of higher culture openly. He possesses soap, a toothbrush, a small brush for grooming his eyebrows, and perfume. He uses all these toilet articles very frequently. He is not afraid of the jealousy of his Calderun fellow-villagers; he always carries his machete /see the glossary, p. 249/ with him in order to defend himself. He wants to marry a "white" woman outside of Calderas (cf. also "The Course of a Day" /see p. 133 /).

124 ● 286 386 /109/ In the work an attempt was made as a matter of principle to observe all the activities of the Paez ourselves; when this was not feasible, two different informants were questioned if possible. Two examples will show, however, that errors can creep in, even with the most careful work: I had the dyeing process for the black-dyed fabrics explained to me by the interpreter Marcos, according to whom they are first boiled with certain leaves, and then all of this is placed in black humus earth for two days. When the same question was put to Victoriano, he stated that the black coloring occurs if the fabric is placed in black humus earth for two days. At my suggestion that the fabric first had to be boiled with leaves, he delightedly agreed with me. When called to account as to why he had not told me that, he replied: "Well, you did not ask me about that; you only wanted to know how the material becomes black!"

124 423 One cannot speak sufficiently often and again and again in different ways about the same subject, for to the Paez the necessity or the meaning of explanations for things self-evident to them is usually incomprehensible. Thus in the case described there was as little ill-intent or even mere carelessness as in the following case: In roaming over boundary lines, I inquired as to which fields were private property and which were community property. We came to the general conclusion that the lowlands were community property and the mountain slopes the private property of the man or family who had first cleared the land. I asked Victoriano several times as to whether there were any pieces of land that at present had no owner. He stated emphatically that all the land had been disposed of and there was no longer any ownerless land.

/121 cont./

372 In case the fire should go out, which happens very rarely, the men, if they have no matches, know how to make fire by striking the blade of the iron machete with a stone and catching the sparks in the dry tinder of expressed sugar-cane. To fan this or a dying fire the hat is used as a fire fan, instead of a special fan. A few times I also saw a reed tube (yotá) about 50 centimeters long, which is blown into with the mouth and which thus acts like a bellows.

352 [854] [513] ●[286] Infants do not as a rule sleep on the floor, but in hammocks (máka), which, however, as the name indicates, were not originally Paez. Nevertheless all the men know how to make them out of agave fibers, which is done with the same knotting technique as in the manufacture of nets for bird hunting.

415 [286] [353] [273] Moreover, a few bags (yáha) made of agave fibers, which contain beans, maize, or other supplies, hang on the wall posts. Arracacha lies on the floor. For drinking chicha, which is allowed to ferment in large, hollowed-out tree troughs, calabashes (tóka) are used, but they are plain and undecorated. Cracked calabashes are sewed with a waxed agave thread (Fig. 25 /see p.253/). The calabash gourd is grown in the house garden /122/ of every family; its meat is inedible. Furthermore, an oval or rectangular grindstone on which maize is ground with a smaller hand-stone is found in every household. It usually lies on the floor in a corner of the house, but sometimes it is set about one meter high on two forked posts.

[249] 412 352

412 415 264 [322] [177] Meals are taken with wooden spoons (todsá'tc) off of wooden plates (bič), which are carved by the Paez themselves (Fig. 27 /see p. 253/). Aluminum or enamel bowls were rarely encountered in Calderas. Plates and mugs of aluminum were therefore always coveted gift articles, along with kitchen knives, needles, safety pins, matches, and salt.

356 515 ooo Cleanliness within the house is surprisingly great, considering that the Paez wash their bodies but seldom and their hands only when they are "very dirty." This is the case when a person has been working in a burned field and has cleared away the sooty, burned tree trunks and the burned underbrush. The house

/123 cont./

291 stamps. Soon after the Conquista they adopted the upper garment
177 and the straw hat still worn today.

The clothing of the men consists of the upper garment, linen trousers, the cloak (called "poncho" in Peru, "ruana" in Colombia /see the glossary, p. 250 /) and the waterproof, plaited
291 straw hat. The upper garment and the ruana are woven by the
294 women out of sheep wool, whereas the linen trousers are made
286 by the men themselves out of purchased fabrics. This is note-
177 worthy culture-historically, for cutting clothing from woven
[462] fabrics was unknown to the South American Indians in pre-Colombian times, since fabrics were not woven "by the meter" to be sewed later into clothing as desired; rather, the shape of the subsequent article of clothing was already taken into con-
296 sideration at the start of the weaving. It follows from the method of manufacture that torn fabrics are never repaired by the women with a ready-made patch, but are always darned in imitation of
[462] the texture of the cloth. It is different for men's trousers, the materials of which are bought by the men and sewed by them themselves, never by the women. Once these -- as well as the purchased shirts -- are torn, they are never darned, but always repaired by the men by means of a patch sewed underneath.
296 Thus, we have here the fixed rule that woven clothing is never-
177 patched, but is darned, whereas the sewed clothing is never darned,
462 but is always patched. The former is women's work, the latter men's work.

291 The garment covering the upper body of the men (tondatc; for lack of an appropriate European designation it is called upper garment in the following) is not a sleeveless shirt, since the sides are not sewed together, but are open. It is quite simply a rectangular woven piece of wool about 60 centimeters wide and 160 centimeters long, whose warp threads run lengthwise. A slit about 30 centimeters long is left open in the center for the neck. It is pulled on over the head, and the lower ends are either stuffed into the trousers or left hanging over them. In the latter case they must be secured with a strap tied over them (Ills. 154 /see p. 268/, 165, 166 /see p. 273/, 171 /see p. 276 /, 202 /see p. 289 /, 203 /see p. 290/).

/124/

291 The men's trousers (calsón) have no pockets. On the aver-
294 age they reach to the calves. Generally they are very carefully sewed, either with purchased thread or with homemade, very fine yarn made of agave threads. In making them, as well as in the case of necessary repair work, all the edges are very carefully bound.

The men's ruana (atç) is generally square, with a side edge of 100 to 160 centimeters. It is sewed together out of two equally wide, rectangular panels, with a slit about 20 centimeters long left open in the center as a neck opening. Because of its square shape the ruana may be worn just as well with the neck-opening crosswise.

285 Whereas shoes or sandals are not used by the Paez, men,
462 women, and children wear the same type of straw hats (śwá).
293 These are plaited, however, only by the men and boys. The
415 dress of both sexes is completed by two or three of the colored
291 woolen coca bags, in which, on journeys, the necessary personal articles are also carried.

291 The garments of the women's clothing consist of wool and are woven by the women themselves. In general the quality and
294 fineness of the women's fabrics are significantly greater than that
• 286 of the men's woven fabrics. The boys' and young men's fabrics are generally the coarsest, woven with a rather thick spun thread. Decorative strips of a different color within the fabric are found chiefly in the women's clothing, but not infrequently also in that of the men, especially in the ruanas. The absolutely necessary basic clothing of the women consists of skirt and upper garment. Both are worn in such a way that the warp threads run crosswise. The skirt (atytól) is a very wide, tubular garment, whose diameter may amount to 150 centimeters and more, with a length (in the weaving state this corresponds to the width!) of about 80 centimeters. It is worn in such a way that the front part is tight, while the back side falls in numerous folds. It is fastened at the height of the hips with a woman's colored belt, and its upper edge is folded down somewhat over the belt.

/149 cont./

283 market or on other errands; when spinning agave fibers, they sit in front of the beam around which the fibers have been tied to dry.

[236] Sheep wool (kas) is roughly cleaned and for spinning is wound, unwashed, around a rod (Ill. 179 /see p.280 /). The latter is 60-150 centimeters long and is gripped under the arm by its lower part. On its upper part it has a notch in which is fastened a string to wind around the wool and hold it on the rod. To prevent it from drying out too much, which would make spinning difficult, it is protected by being wrapped in leaves or by a cloth.

After several meters of thread have been spun and wound on the lower part of the spindle, it is removed from there and wound on the upper part. In this wound form, that is, still on the spindle staff, the thread, after the removal of the whorl, may be used as
• [236] a shuttle in weaving garments. For weaving the colored belts of the women, however, and for making the wool coca bags, not the simple, but the twisted wool thread is used. The agave threads are even twisted on principle for every type of use. For this purpose two single threads are twisted into a double thread
283 in a rotating direction counter to the spinning direction. This
462 process is carried out differently by men and women. The former twist either with the hand on the upper thigh or use a special instrument, the klafica, with which the strongest ropes are also made, whereas the women use the spindle even for twisting. The direction of rotation of the twisted thread is different for men and women. Depending on the material, the former use the Z-twist in their handwork, the women the S-twist in their work with the spindle. In the twisting or ropemaking with the klafica done by the men, the S-rotation prevails. (For indicating the /150/ direction of rotation according to these two letters, the direction of the front, diagonal part of the vertically held thread, which runs parallel to the middle part of an S or Z, is the determining factor [ Fig. 34 /see p. 256/].)

/150 cont./

283 and, as the third step in the work, the extraordinarily strong rope about one centimeter in diameter is produced. /151/The Lassos (kádya) cut spirally from cowhide as leather strips are also twisted with the klaffca. The prerequisite is that the skin be worked in a fresh or wet state. If, after twisting, it is stretched out for a while to dry, it will keep its spiral twist. It will lose it, however, if it is pulled too hard or becomes too wet.

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c) Net Techniques

286 In describing the net techniques of the Paez, I should like to distinguish between the loop technique /Schlingtechnik/ and the knot technique /Knotentechnik/. Among the articles made by the loop technique are the carrying bags of agave fiber (called "fiber bags" in the following) and the wool coca pouches; among those made by the knot technique are bird nets, hammocks, berry sieves, and slings. Agave fiber or sheep wool, both in the form of twisted threads, serves as the material.

The loop technique is used, for example, in knitting and crocheting in our European culture-circle, and, to be sure, with the technique of intertwining /Verschlingen/. The simplicity of this method of work stands in contrast to the disagreeable attendant phenomenon that the entire fabric can be destroyed by pulling one thread. The loop technique of the Paez in producing cloth is fundamentally different. It consists of the technique of simple insertion /Einhängen/. Purely as a matter of form it should be noted that neither needle nor crochet hook nor any other object is used to carry it out; rather, everything is done with the hands.

In order to connect the loops one must draw the thread in its entire length through each individual loop. Since with this technique the supply of thread in the form of a thick ball would not pass through the loops, or only with great difficulty, another way of arranging the thread supply had to be thought up. The Paez succeeded in doing this in a very clever way; they were even able to devise a serviceable substitute for a needle from the same material (Ill. 183 /see p.282 /). The thread to be worked in, wool

/151 cont./

• 286 or agave fiber, is folded over upon itself several times, slightly twisted, and then tied together in the center with a simple thread. The latter is knotted several times in such a way that it runs out into a point which at the same time serves as a plaiting needle. This folded thread supply, which is up to four meters long and six to eight millimeters thick, may easily be passed through each loop of the fiber bag. When a length of the thread is used up, /152/ a loop of the thread supply may promptly be pulled through the "eye" of the "needle," and this continues until the supply is used up.

[461] The method of making the fiber bag and the wool coca pouch is fundamentally the same. The work period lasts two to six weeks. In the case of the fiber bag (yaha), the largest of which may measure more than a meter in height and width, a small bottom is plaited first, from which the bag is worked, bell-shaped, in several sections up to the rim. At the start of this process, between the thumb and ring finger for the one part and between the index and middle finger for the other part, there is stretched a short piece of thread, around which the continuation of the thread is wound loosely and spirally in loops. This produces the first row of meshes (Fig. 30 /see p. 255/). The following length of thread is now again drawn back through these, so that it loosely catches the previously formed loops. Proceeding in this fashion, when the rectangular bottom has been made to a size of about two by five centimeters, one starts at a corner of it with the first section. Here, too, as in the entire plaiting, the thread continues in the same technique. In order to enlarge the bag, as many additional rows are interlaced in each loop of the bottom as are desired to widen the bag.

At the end of the work a broad row of holes is worked into the bag three loops below its upper rim, and this serves for fastening the carrying band. This band terminates in loops at both ends, conditioned by the method of weaving (see below). For fastening, the first loop of the band is drawn through a rim eyelet from the inside and put first around the top toward the back. Then the second loop is drawn down through the first loop and only then back again through the eyelet of the bag toward the top-back as before. The last loop of the band is knotted with

/152 cont./

286 the beginning or end warp thread of the carrying band in an eyelet of the bag.

The making of the woolen coca pouch (kwatandyáha), literally "lime pouch," the size of which varies between 12 and 35 centimeters, is done in the same technique as the manufacture of the fiber bags. The process, after the bottom is made, is done in three sections, the middle one of which stands out externally because of its colored, chessboard-like pattern, which is bordered above and below by a row of triangles. Since this colored section is likewise plaited from the bottom to the upper rim, thread of a different color is required for each change of color. These threads of a different color are twisted into ropes in the same way as in the case of the fiber bags and held together with a wool thread which serves as a plaiting needle. The number of /153/ colored squares in the unit area is constant, and their arrangement, conditioned by the plaiting, is necessarily diagonal (Ills. 154 /see p. 268 / and 203 /see p. 290 /).

286 The fastening of the carrying band, made by plait-weaving (see below /see p. 85 /), to the coca bag is done in the same way as that of the carrying band of the fiber bag.

The fabrics made by the knot technique are generally wide-meshed and include primarily the various kinds of nets. The knots are formed by tightly pulling suitable loops or interlacings so that the more or less loose meshes cannot shift. To obtain uniform meshes, the bird nets (ōka) and hammocks of the Paez are worked with a mesh stick whose height of about five centimeters corresponds to the size of the mesh (Fig. 31 /see p. 255 /). The material is the twisted agave thread. To make the net -- and the hammock -- the loops of the rows of meshes are made by means of the "symmetrical knot" (Fig. 34c /see p. 256 /). For this the ascending thread travels from back to front over the open part of the mesh and, passing over the latter horizontally, runs downward again in the loop produced. The mesh stick is always pressed from below firmly against the row of knots above, whereby the new knots bind it in tightly on its underside. This produces perfectly uniform meshes. The dimensions of the bird net -- spread out -- may reach a size of five by 20 meters.

/153 cont./

286 [177] The hammock (máka), as the Spanish name already indicates, is a borrowed article and not generally distributed in the Andean cultures. Among the Paez it is used only for children. Its dimensions, with 100 meshes, are about 100 by 100 centimeters. It is hung up with agave or horsehair ropes, which are looped through the upper and lower rows of meshes and then tied to house posts.

[415] The berry sieves (tása) are present in almost every household. They are about 30-60 centimeters in diameter and are stretched inside a round wooden frame. The meshes are formed by means of the "fishnet knot" (Fig. 34d /see p. 256 /). This draws together very closely and is then scarcely recognizable in its structure.

283 The sling (ísut) is made with various techniques. For its manufacture the dried fibers of the agave leaf are used just as they are obtained when the leaf is stripped. A knot is made at the tip of the bundle of fibers, and it is then divided into two parts. Both are turned by hand in the same direction and then twined by rotation in the opposite direction. This produces /154/ -- conditioned by the naturally thickening material -- a two-strand rope of steadily increasing strength. Since it is twisted only by hand, it threatens to lose its tightness with greater thickness. Hence, after about 50 centimeters, the hank is divided into three parts and plaited for about the same length in the manner of a three-strand braid.

286 284 To make the net for holding the sling stone (Fig. 29 /see p.255 /), the three plaiting strands are divided into seven strands which, in each case, are separated from the plaited part by a simple finger knot. From each of these knots two double strands continue, which, put diagonally, are tied together by a double finger knot.

The length of the net part is about 20 centimeters. At its end it changes back to a three-strand braid by way of a simple finger knot. It should be noted in this connection that the middle strand at the beginning of the braid is caught in the threads of an adjacent knot. This prevents the plaiting from loosening up as it goes into the net and losing its tightness. The same

/154 cont./

284 reinforcement is found at the other end of the net in the transition
286 to the braid part. The further procedure up to the completion of the sling corresponds to the beginning. At one end a sliding loop is tied by means of a knot, which, when the sling is used, is drawn over the middle finger.

d) Plaiting

283 The technique of plaiting is practiced among the Paez only
285 in plaiting bands for making straw hats (šwá) and for making three-strand ropes. The latter are plaited by the women in various lengths and strengths from agave fibers in the normal form of the three-strand braid. There are no plaited baskets, sieves, fans, bands, etc. of any kind among the Paez.

294 The shape of the Paez hats seems to imitate those of the
285 whites. It is the same for men, women, and children. They are made only by the men. The dry leaves of the šyéts reed, which are first torn into strips about one centimeter wide, serve as material. To be worked up they are then divided once more by being torn lengthwise into five to ten narrow strips from one to two millimeters wide. The quality and value of the hat depends on the fineness of these strips, for the finer the plaiting strips are the more waterproof and durable the hat is. It /155/ is made from a single plaited band (čemótč) sewed together in spirals -- starting from the center of the hat.

The plaiting of the band is done without any aids, in the form of diagonal plaiting with 11 strips (Fig. 33 /see p.256 /). At the start of the work they are bent in the middle and thus used double in such a way that the upper side of the reed leaf is on the outside. The second strip is inserted into this initial bend at right angles and likewise bent. This is done alternately until all 11 strips have been worked into a band approximately six to ten millimeters wide. The further plaiting work is continued with the double strips. For this the first double strip is always bent from the outside downward toward the center, in order to be drawn over the second, under the third and fourth, and over the fifth and sixth.

/155 cont./

294 285 From the other side there is a corresponding procedure with the then outer plaiting-strip, so that the strips are plaited alternately from both sides always only to the center. This produces a very uniform and firm band.

A thread of the agave fiber is used to sew the plaited bands together. In order to give the hat brim sufficient stiffness, leaf ribs are sewed on the underside over the seams.

e) Weaving

285 286 114 The demarcation of plaiting from weaving is not uniform. In the literature written in English the two are generally not differentiated. According to H. Nevermann (pp. 4-6), the following conditions must be given for the simplest technique of weaving, namely, rod weaving /Stabweberei/, such as is also practiced among the Paez: 1) the stretching of the threads or fibers on a frame, 2) long weft threads, 3) rectangular crossing of warp and weft, 4) mechanical formation of the first and second shed. The last point is the decisive one, for in plaiting each weft thread must be drawn separately over or under each separate warp thread, whereas in weaving this is done over a certain number of longitudinal threads simultaneously by means of a heddle rod or something similar. More complicated types of weaving, for example, little-board weaving, comb weaving, or braid-grid weaving /Brettchenweberei, Kamm- or Litzengatterweberei, types of weaving found in Indonesia and described by Nevermann, pp. 16-18 (see the bibliography in the foreign text, p. 325)/, do not occur among the Paez.

/156/ 1. Weaving Apparatus for Carrying Bands

286 The weaving apparatus for the carrying bands of the fiber bags (vitoñšāpc) consists of a forked branch, the sides of which must not be too far apart and should, if possible, run parallel. Its size is 60 to 80 centimeters in height and between 20 and 60

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• 280 centimeters in width. Two rods corresponding to the breast beam and warp beam (pšátegwe) for the vertically stretched warp threads (yáhawes) are tied horizontally to the forked frame with bark bast (Fig. 35 /see p. 257/).

For weaving by the method used by the Paez, a special warping device, which otherwise, in weaving with a spiral warp, is required in some form for the preparatory stretching of the warp threads, becomes superfluous. The Paez weaving is done neither according to the method of the continuous circular warp nor according to the method of the terminating flat warp, but constitutes a mixture of both in the form of the so-called "false spiral warp." The warp threads run circularly around the breast and warp beams and form two planes, one below and one above the beams. They are not, however, stretched spirally, but like a parallel warp. They are fastened by means of a small horizontal stick around which the first warp thread is wound with a loop. This then runs all the way around the frame to the horizontal stick again, passing over the latter from back to front, and going back again around the frame in the opposite direction. Alternating in this fashion, all the warp threads are stretched to the desired width. After the last warp thread has passed around the horizontal stick, it is knotted and immediately used as the first weft thread.

The weaving is done according to the method of the simple rod weaving. The texture is always the texture of linen. Instead of a regular shed rod and heddle rod, loops of bast or agave fiber constitute the aids for the mechanical shed formation. The shed loop (batsnés) grasps warp threads 1, 3, 5, 7, etc. together; the heddle loops (nyúgwe) grasp the warp threads of the even numbers singly in one long loop each, and they in turn are tied together at the top. The mechanical shed formation is done by alternately raising the shed loops and the heddle loops (Ill. 182 /see p. 281/).

[824] The shuttle (bánka) consists merely of a wound ball of thread; the sword (kyíta) is carved from the hard wood of the chonta palm pointed at both ends, and semicircular in cross-section.

As a result of the way they are stretched, the warp threads in /157/ their entirety may be drawn around the horizontally lashed tension rods during the weaving, so that the piece being woven

/157 cont./

286 always lies conveniently in front of the woman for the weft. The beginning and end of the woven part start at a distance of about three centimeters from the horizontal stick. At the end the last weft thread is knotted at the edge of the warp. When the stick is pulled out, the band comes off the frame. Since the warp threads terminate in loops, the texture of the band cannot become slack.

## 2. Weaving Apparatus for Cloth

286 The weaving of cloth of larger dimensions for clothing is
294 also done in the technique of the linen texture and according to the same method as the weaving of the carrying bands for the
[581] fiber bags. Every woman can do both, for she herself must be able to make all the material needed by her family for clothing; otherwise a girl has no prospect of getting married.

The weaving apparatus stands upright and consists of two strong posts which are rammed into the ground about two meters apart in front of the house, but still in the shelter of the roof. Into each of these posts, a little above the ground, a notch is cut, into which the breast beam is placed horizontally and lashed. Its position with respect to height is unchangeable. The warp beam, likewise horizontal, may be lashed to the vertical post with ropes higher or lower, depending on the length of the cloth to be woven, whereby a uniform tension of the warp threads is achieved.

The non-twisted woolen warp threads are stretched in the same way as in the case of the carrying bands for the fiber bags. The width is determined by the piece of material to be woven.
[461] The work period for a woman's skirt takes a total of about six months. In order to attain a certain decorative effect in the finished piece, between the uncolored sheep-wool warp-threads are stretched likewise uncolored or differently colored cotton threads which, in the subsequent dyeing process with plant dyes, do not take on this coloring.

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●286 294 The shed rod consists of a round, straight wooden rod. The heddle loops are held by a horizontally stretched string immovable in height, which is tied left and right to the two vertical posts of the weaving apparatus. The sword is semicircular in cross-section, pointed at both ends, and carved out of the dark, hard wood of the chonta palm. Its width is /158/ three to four centimeters, its length about 60 centimeters. The shuttle consists of a rod on which the thread is wound crosswise. Sometimes the spindle with the spun thread is used for this.

Making the shed for the insertion of the shuttle is laborious, for -- depending on the width of the piece to be woven -- not all the corresponding warp threads can be pulled forward simultaneously with the heddle loops. The woman doing the weaving is able to grasp only about half a dozen heddle loops at a time with one hand and pull them forward, in order to push along the sword slowly and form the shed. Even before the shed has reached the width of a sword length, the shuttle must already be pushed along, so that the weft can only be carried through in stages, as it were, with the shed formed by the heddle loops (Ill. 181 /see p. 281/). The shed formation with the wooden shed rod is essentially simpler, since the latter may easily be drawn forward to form the countershed and the heddle loops yield.

The beginning and end of the woven material are determined by the width of the only thin cross-rod, since at the end the shed rod is drawn out and the cross-rod takes on its function. In the loops left at the beginning and end, weft threads are drawn through by hand in the same form of the plain linen texture, until the loops are filled out. The last weft thread in each case is taken threefold so that a firm selvage is produced.

### 3. Weaving Apparatus for Women's Belts

[463] Originally every woman was able to weave the women's belts (táw), the most difficult type of weaving among the Paez. Today it is almost a specialist's work, for in Calderas there are only five women left who are able to weave the women's belts themselves.

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286 294 438 463 One of them, Talesia Pame, has even developed a small industry from this ability. She now weaves women's belts almost exclusively and barters them for food and other things. She is in her early thirties and has three children. Her oldest daughter, about 12 years old, is also learning from her mother how to weave belts.

286 294 The weaving apparatus (tawkyávitoň) is fundamentally the same type as the one for the bands of the fiber bags. The fork-shaped mounting of the frame is somewhat wider and correspondingly longer. The weaving material is wool. The preparation for making the patterns in different colors consists of stretching the warp threads of corresponding color, which, as in the case of the fiber-bag bands, are laid around a small cross-stick. /159/ The weft thread is always plain white and, in the form of a ball, is used as the shuttle. The general arrangement of the warp threads is such that on both outer sides a number of white warp threads are stretched, then follow four of red, yellow, blue, or some other color, which, in the completed woven band, appear in each case as a colored stripe running through it. The ornamented center section consists of four white warp threads followed by two red ones. The latter serve to produce the pattern and are the only warp threads of the belt that are not woven in the linen-texture technique. They are therefore not included in the shed loop that takes every second warp thread. There are two heddle loops, one of which grasps the warp threads corresponding to the shed loop, while the other grasps the red warp threads of the ornamental chain of the center stripe (Ills. 187 to 190 /see p. 284/).

In weaving the linen texture, shed loops and heddle loops are used in the normal technique. The red warp threads of the second heddle loop are lifted up -- altogether or in part, depending on the design to be formed -- while beneath them the weaving continues in the normal linen texture. Thus, if all the red threads are lifted together, a red cross-stripe is produced as the simplest design, the height of which depends on the length of time the second heddle loop remains lifted. In making designs

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286 294 for which only certain red threads are used, the weaver counts the required number and holds these up for the time being with a special shed rod consisting of a small piece of reed. The red warp threads not required fall down under and appear on the back side of the band, in part as a negative pattern and in part covered by the white warp threads.

[531] No patterns exist for the weaving designs. In general it is a matter of traditional forms -- human beings, rhombuses, triangles -- although imaginative women include Latin letters in their store of ornaments.

On account of the space required for the arrangement for the mechanical shed formation, the band terminates in loops about ten centimeters long, which are removed from the cross-rod and plaited circularly with four strips each.

f) Plait-weaving

286 Whereas the carrying bands of the fiber bags (yáha) are woven in the technique of rod weaving in linen texture, the wool carrying /160/ bands of the coca pouches (kwatandyáha) are made in the plait-weaving technique. This means textile techniques which are not weaving because of the lack of mechanical shed formation in the manufacturing, but which also do not represent plaiting because of the vertical and horizontal course of their threads. The bands are about 1.50 centimeters wide and 76 centimeters long. At a superficial glance they give the impression of being plaited freehand because of their thickness. Their thickness results, however, from the turning and simultaneous crossing of the warp threads in the plaiting (cf. Ill. 152 /see p. 267/).

To make the band a frame similar to the one for weaving the carrying band for the fiber bag is required. The warp threads are stretched in the same way; the beginning and end are fastened to a similar cross-stick. Warp and weft are perpendicular to each other, but there is no mechanical shed formation.

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For the plaiting process, which proceeds from the top down, there are stretched beside one another -- in their sequence -- four red warp threads, four white, four blue, four white, and again four red threads. At the start, two to three centimeters are woven in the customary linen texture. Then begins the plaiting of the band with the rhombus design. To do this, the weft, made up of one red thread, is drawn through two like-colored warp threads twisted one over the other. The twisting of the warp threads first goes in an inward direction; thus the right warp threads are twisted to the left, the left ones to the right, but always in a complete turn of 360°. Their sequence after the twisting is exactly as before. To form the rhombus design, the twisted warp threads are at the same time crossed under one another.

To lead back the weft threads, the still crossed warp threads are beaten from below upward with a pointed shed rod, usually the weaving sword, and the weft thread is led back through the opening thus made. This releases the twist of the warp threads. Now the position of the warp and weft threads once again corresponds to the normal linen texture.

To complete the rhombus, that is, to form the lower part, the warp threads are now reversed, twisted from the inside to the outside, and then one proceeds appropriately in the same manner as described.

The weft threads are pulled quite taut so that they disappear within the texture, and only the warp threads are to be seen. Their distance from one another -- conditioned by the twisted warp threads -- is relatively great.

/161/The decisive characteristic of this plait-weaving and its distinction from the weaving of the patterned belts of the women (táw) consists in the fact that the same patterns appear on the front and back side of the plaited band, though always shifted by half of their dimensions.

As variants of the simple rhombus pattern described, there may be two rhombuses next to each other or five small rhombuses in a diagonal arrangement. In this case the back side does not

/161 cont./
286 show the same design, but rather one that results from the cross-
531 ing of the twisted warp threads.

g) Dyeing

386 The Paez feel that black is the most beautiful color.
824 Hence almost all the home-woven garments of the men and
[822] women are dyed black, and only rarely does one see articles of clothing in the yellowish-white natural color of sheep wool.
[462] Dyeing is women's work and is done with certain plants, which, however, dye only the animal material used in weaving, but
[294] not that from plants. This peculiarity of the dyes is utilized by the Paez to make patterns in their clothing by weaving into the sheep-wool fabrics a few cotton warp threads, which, in the subsequent dyeing, retain their original color.

Every woman is in a position to dye her home-woven fabrics black. To do this the pieces of fabric are boiled in a pot for about two hours, along with the leaves of the šal tree or the zóte tree (according to Hernandez, 1946, p. 944, with the leaves of a Phyllanthus) and then buried for two days and two nights with these leaves in a pit in black, rich humus earth (ašáktič). Then they are taken out again, washed thoroughly, and allowed to dry. The black dye is now lightfast and waterproof. The cotton ornamental stripes in the women's clothing, which are not affected by this dyeing process, are either natural
[283] in color, red, or green. They are bought by the women in the desired color, since cotton is not spun by the Paez.

586 The threads of different colors used to make the coca bags
824 and the women's belts were originally all dyed by the Paez
177 women with vegetable dyes. Today this is done only in part,
[439] for anyone who has the money buys aniline dyes at the market in Inzá or Belalcázar; they are more popular because of their stronger coloring and greater luminosity. Similarly, the cotton purchased in thread already dyed is more popular for making women's belts, since it is brighter or more brilliant.

/315 cont./

105 "Araucanian" type (O'Neale, p. 115). In place of the shed rod we have a simple loop; in place of the heddle rod, a bundle of loops.

105 The warp threads are stretched in the form of the "false spiral warp,"
286 a mixture of the method of the continuous, circular warp with the
171 method of the terminating flat warp. This genuinely American way of stretching the warp is found among the Northwest Coast Indians as well as among the tribes of the Gran Chaco (Olson, pp. 114-121). Culture-historically H. Nevermann regards the various forms of American weaving /316/ as having originated on the basis of a native or pre-Polynesian plait-weaving. Among the Paez we find this technical stage in the plait-weaving of the carrying bands of the coca bags.

105 For dyeing, vegetable dyes are used, which dye only sheep wool, but not cotton.

Pottery is very simple. There are only hemispherical pots and bowls made with the spiral coil technique, both without any ornamentation.

The present political organization of the Paez is based on the village community. It is led by a village council (cabildo), whose members are chosen for a year from among the men of the village. The designations for the members of the cabildo and their functions are in part Spanish. In former times the leaders of the Paez were
[621] often men with shamanistic abilities. The village is not organized
[565] by either classes or occupations. No one need serve another for
[463] pay; the word and the thing are unknown to the Paez. The father
[464] of the family with his sons or brothers works his fields, and if
[476] friends or neighbors lend their help, it is compensated for by assistance in their fields.

[594] The family organization is basically the patrilineal,
[178] monogomous nuclear family, consisting of the parents and the unmarried children. Here there has probably been the least
[851] change in Paez culture. The children are given the family of the
[533] father. For her marriage the woman receives no dowry of any kind from her parents, and she keeps her maiden name. Since there are no social or financial reasons for concluding a marriage, a woman has only the merit of her personality and abilities. These are tested during a "trial year" before the actual conclusion of the marriage.

1: Nachtigall--255 E-5 (1952-1953) 1955 SC15 Paez SC15



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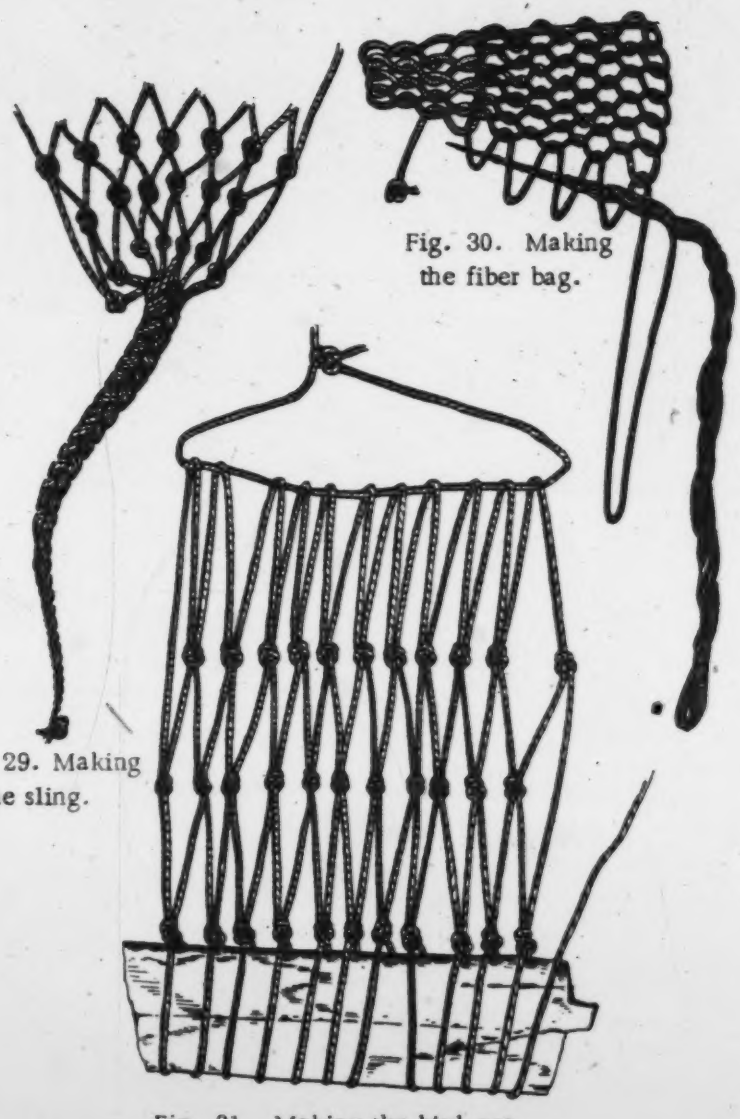

Fig. 30. Making the fiber bag.

Fig. 29. Making the sling.

Fig. 31. Making the bird-net.

1: Nachtigall--256 E-5 (1952-1953) 1955 SC15 Paez SC15



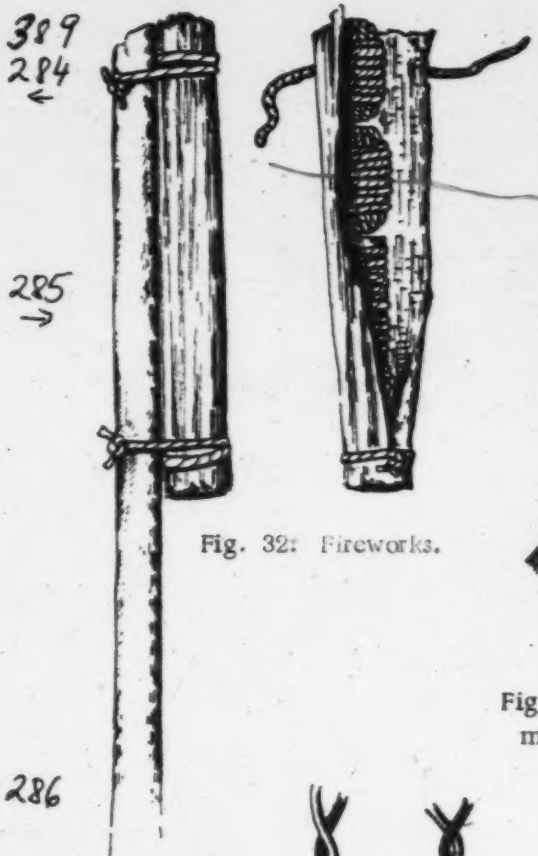

Fig. 32: Fireworks.

Fig. 33. Plaited strip for making the straw hat.

Fig. 34. a = S-twisting b = Z-twisting
c = symmetrical knots d = fish-net knots

1: Nachtigall--257 E-5 (1952-1953) 1955 SC15 Paez SC15



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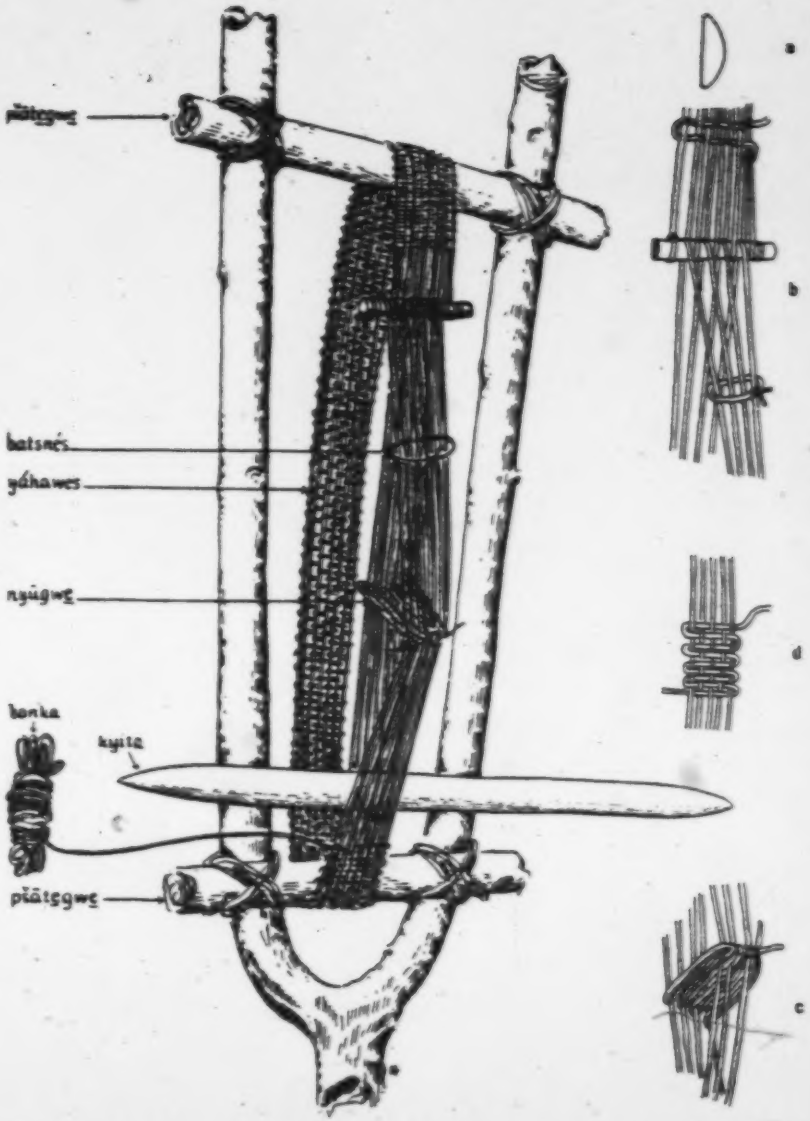


Fig. 35. Weaving apparatus for making the carrying bands of the fiber bags.

a = Section of the weaving sword

b = Method of stretching the warp threads

c = Heddle loops

d = Weaving pattern

1: Nachtigall--267 E-5 (1952-1953) 1955 SC15 Paez SC15



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Ill. 153. The shaman Carbaleda Niunda.

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Ill. 152. Mother with child.

1: Nachtigall--281 E-5 (1952-1953) 1955 SC15 Paez SC15



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[454]



Ill. 181. Weaver making wool cloth.



Ill. 182. Making the carrying bands for the fiber bags.

1: Nachtigall--282 E-5 (1952-1953) 1955 SC15 Paez SC15

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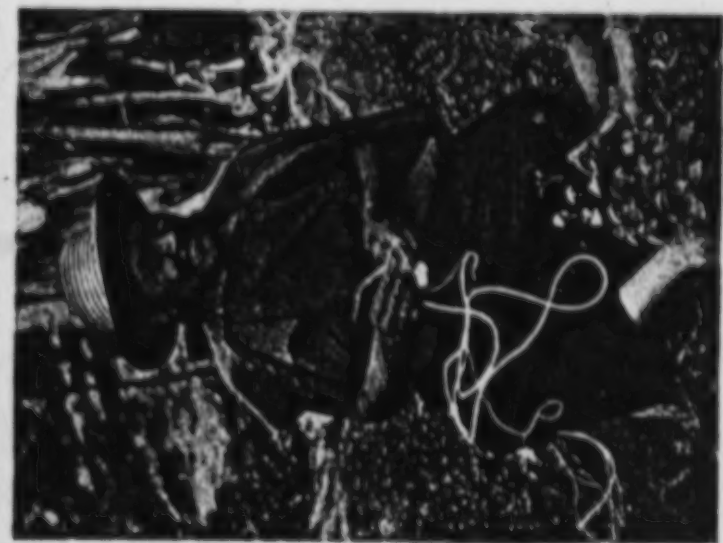
Ill. 184. Smoothing out the seams of a pot.



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Ill. 183. Making a fiber bag.

1: Nachtigall--284 E-5 (1952-1953) 1955 SC15 Paez SC15



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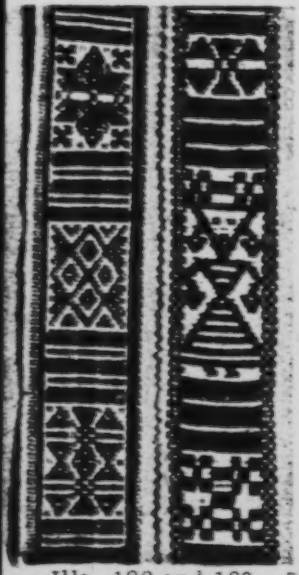
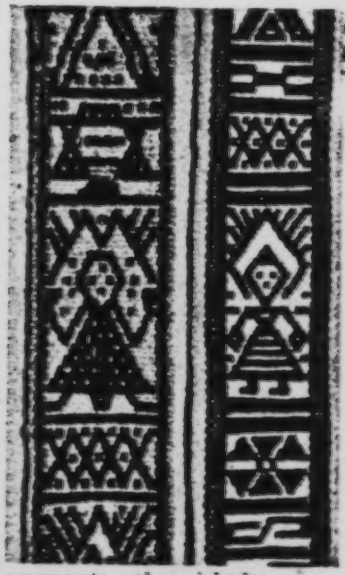
Ill. 187. Making a woman's colored belt.

Ill. 188. Weaving the ornamental warp.





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Ills. 189 and 190. Pattern of the women's colored belts.

2: Pittier de Fábrega E-4, 5 (1906) 1907
SC15 Paez SC15



cient testimony, they have their share of physical ailments. Besides itch (*lel*), tumors of several kinds (*lol-sek*, tonsilitis; *koii*, tumor in the groin), they have original names for smallpox (*buzgnĕ*), which I was told often rages among them, for diarrhœa (*u-tsits*), dysentery (*mengnĕ*), and intermittent or malarial fevers (*ya-ya-gnĕ* in the ancient dialect, *knĕ-knĕ-nĕ* in that spoken at the present day).

Of the practices and superstitions made use of in the cure of these diseases I could gain no information, but it is very probable that the Paez still have their own medicine-men.

## Clothing. Personal Adornment

At present the wool obtained from the numerous sheep kept by the Paez Indians plays the most important part in the clothing of both sexes. I cannot find any direct information on the fabrics used before the introduction of sheep by the Spaniards, but it is most likely that the Paez obtained cotton from the Indians of the Cauca and Magdalena plains, the cultivation and the manufacture of which into thread must have formed one of the principal industries in the latter. I have already referred to the great number of clay spindle-whorls found in the graves and on old dwelling sites throughout the Cauca valley. Judging by these we may feel sure that the former inhabitants were great spinners. On the other hand, the present Paez Indians still weave most of their own clothing, and there is no reason why they should not have done so formerly.

The dress of the men consists of a pair of short trousers (*kiii*), that are evidently a concession to modern civilization. These are made of raw cotton cloth, or of imported fabrics, and reach from the waist to about the knees. Over the shoulders is worn a broad rectangular piece of white woolen homespun cloth, split in the middle in the form of a poncho so as to allow the head to pass through, and hanging free front and back. This is called *tund-atš*, i. e., 'the cloth that binds, or covers.' It is generally worn next to the skin, but sometimes a light cotton shirt, called *atš-petš*, is first put on. Over the *tund-atš* they carry on their left side, hanging by straps that pass over the right shoulder, the coca

2: Pittier de Fábrega E-4, 5 (1906) 1907
SC15 Paez SC15



They represent the primitive type of
habitation, the agglomerations being the result of the efforts of the missionaries. 342 [177]

The villages are generally in the open grazing districts at the bottom of the valleys, on side plateaus, or on broad ridges. They are not compact in the common sense of the word, but consist of isolated groups of houses, the approximate common center of which is often indicated by the whitewashed thatch-roofed church (plate v). 361

The walls of the permanent houses are made of a kind of *bajareque*, i. e., a skeleton of canes filled in with clay. In the better homes the interior is divided into two or more rooms, usually very small, with a hearth in the middle; but oftener there are no interior partitions, the dwelling consisting of a single square apartment. In every case that came under my observation the interior was very untidy. 342 353 [354] [356]

The Indians openly objected to our entering their houses, hence I could gain only casual glimpses of their domiciles, the furnishing of which seems to be an imitation of that of the dwellings of the few Spanish people living among them or in the immediate neighborhood. 352 123 177

Outside the houses they generally have a cane-crusher of primitive type, with horizontal smooth cylinders moved by means of levers at each end. A loom and a grinding stone are also seen occasionally under an adjacent shelter (plates IV:1, 2, and VI:2). 407 286 412

There may often be seen, either about or inside the housse, very large jars used as receptacles in the elaboration of the chicha. These utensils seem to be almost the only survival of the ancient earthenware industry. The smaller pottery vessels which were seen occasionally had been taken from old graves. 415 [192]

Each group of houses, in which several generations of a single family dwell, is surrounded by a small enclosed field, planted with sugar-cane, plantains, oranges and other fruits, and greens and roots of daily use. The garden enclosure is formed by a ditch, inside of which is a wooden fence or a stone wall, the latter often crowned by a hedge of maguey (*Furcraea*), lechero (*Euphorbia*), borrachero (*Solanum*), and other bushes. 351 [592] [247]

1 [See plate facing P. 317 — Analyst]

2 [See plate facing P. 320 — Analyst]

2: Pittier de Fábrega E-4, 5 (1906) 1907
SC15 Paez SC15



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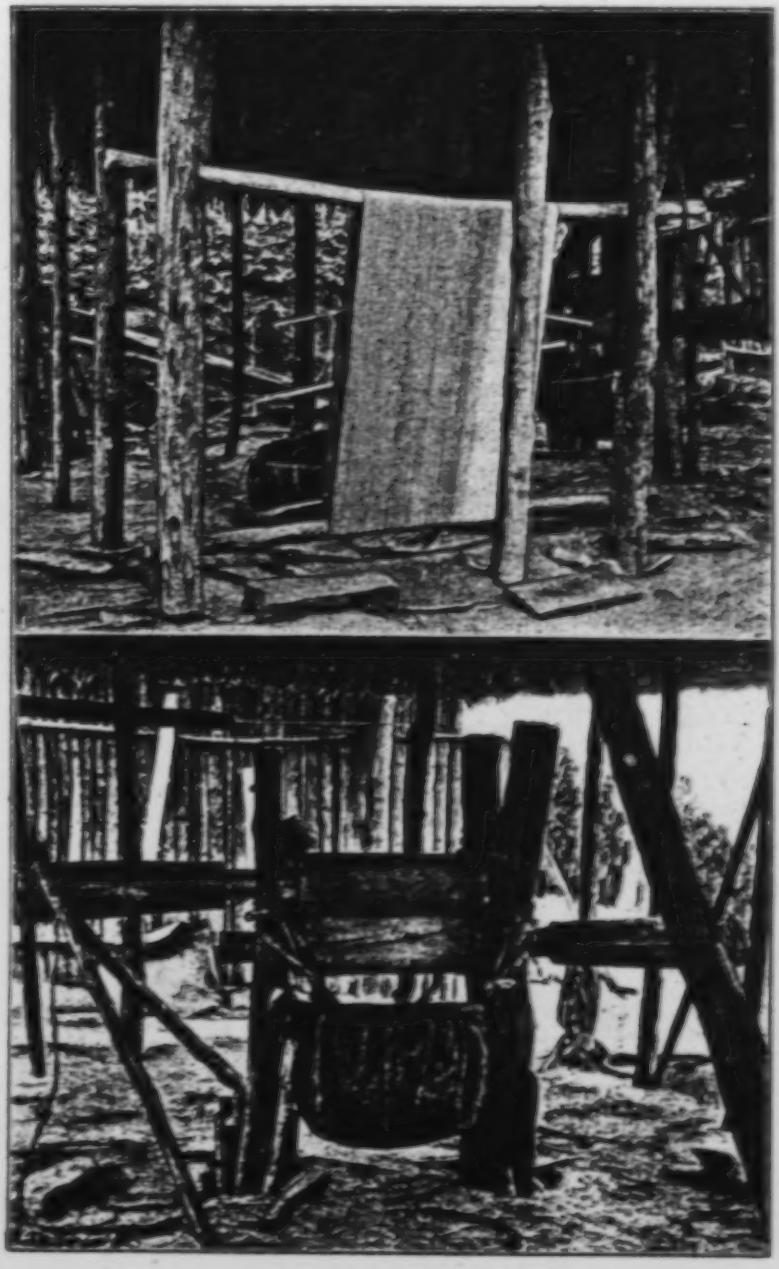

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PAEZ LOOM AND CANE CRUSHER

[facing P. 320]

6: Bernal Villa--104 E-5 (1952-1953) 1954 SC15 Paez SC15

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Tierradentro X: Indian woman of Mosoco "mambe-ing" /chewing coca and lime/ and weaving a kuetand yaha (pouch) for mambe). She is a té eu of the parcialidad.

7:Hernández de Alba E-6,4(no date) 1948 SC15 Paez SC15
Moguex



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[177] Some had wooden doors and windows, and were built with nails and wires, though most were still made with vegetable materials.

The modern *Moguex* house has two rooms. The main one, entered through a small door, serves as storeroom for goods to be sold, reception hall, dancing place, and a room in which to keep watch over the dead. The other is a pantry for provisions and drinks; here are kept [354] kitchen utensils. In the center is the fireplace and around it dried [352] cowhides or platform beds made of horizontal poles tied to stakes [476] driven in the ground. One's neighbors aid him to build his house, [461] transporting heavy timbers over light rollers and singing rhythmically as they heave together. If the owner of a new house is a man of [554] means, he pays for a feast of benediction or consecration carried out [778] with a Catholic priest, a godfather, and a godmother.

The *Páez* does all this and in addition puts some pieces of silver [352] money under his house to assure his good fortune. In the main house [415] he places the metate on stakes, and in a secondary house, the press [353] for extracting wax from laurel, one or more troughs or hollowed trunks, [354] and large jars for chicha and guarapo. From the roof frame hang bags, [524] or "mochilas," of netted hemp for belongings. There is also a bam- [283] boo candlestick, the wooden feast drum, sometimes a tiple or small guitar, and, nailed to the wall, a spindle. Outside, the loom stands [404] against the wall Beyond it is the sugarcane mill, which is made of [286] a section of tree trunk with a hole above a projection on which the [249] cane is pressed by hand with a rod which crosses the hole. Some mills consist of two or three wooden cylinders rotated by animal power.

[243] In each maize field is a small, temporary house and a high platform [342] where a watchman frightens the parrots and parakeets with periodic cries and motions.

[177] Each *Páez* group today has its communally built pueblo, with [361] "bahareque" buildings grouped around a rectangular plaza: a church, with its arched portico and small tower in imitation of Colonial architecture, a house for the priest, a school, and two or three large houses for meetings and fiestas, where they dance, sing, and sleep during fiesta days. But ordinarily, the people remain at their distant houses and fields, and do not live at the pueblo, the only permanent inhabitants of which are a few Whites and Mestizos.

### ENGINEERING WORKS

[491] The Spaniards found bridges which they described as "weak and [499] flexible bridges of bamboo" and "bridges of vines." A territory so broken and crossed with so many rivers and canyons naturally stimulated the *Páez* in the construction of bridges and the laying out of roads. Today they make four kinds of bridges: (1) A simple vine or cable stretched across the river; (2) a kind of wooden stairs placed

7:Hernández de Alba E-5/4(no date) 1948 SC15 Paez SC15

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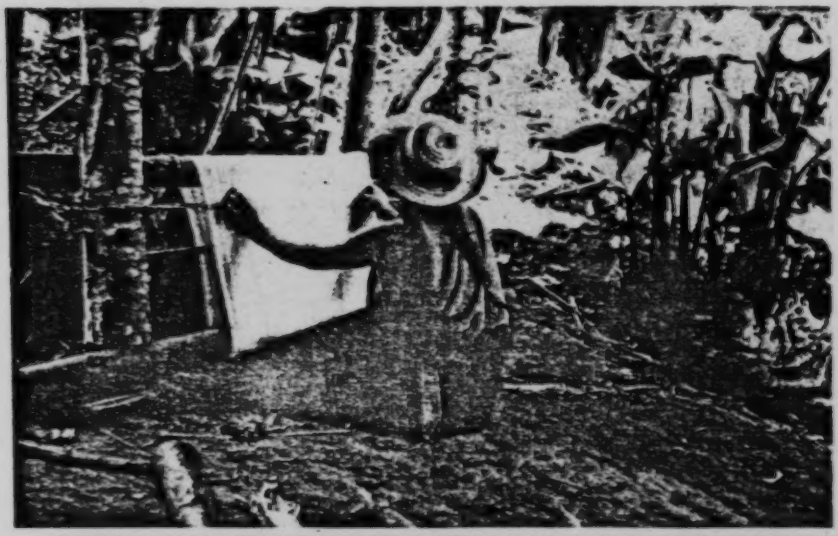

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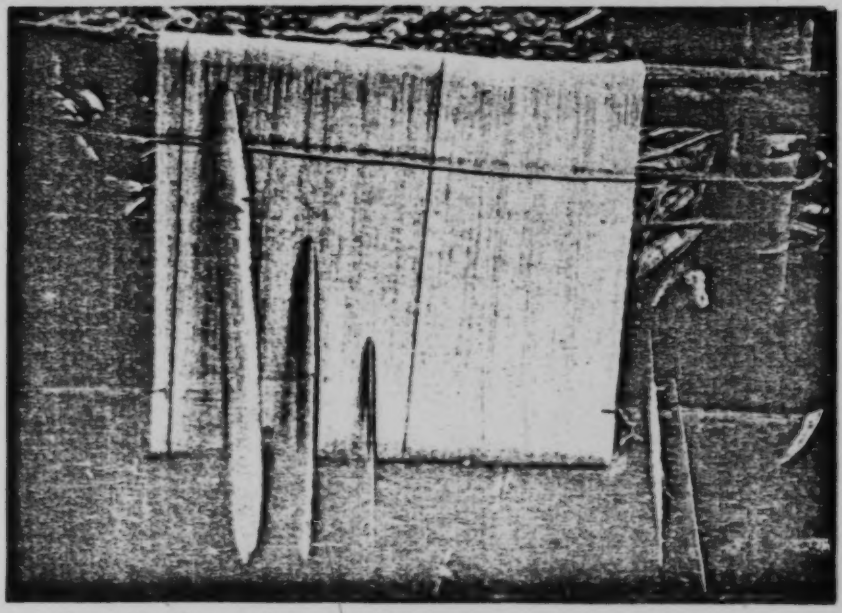

PLATE 186.—Páez weaving. *Top:* Woman weaving a woolen skirt. *Bottom:* Loom and weaving utensils. (Courtesy Gregorio Hernández de Alba.)

?tHernández de Alba E-5,1 (no date) 1946 · SC15 Paez SC15
Moguex



with the right hand over the naked thigh. Two strands are similarly twisted together until the desired thickness is obtained.

**Gourds.**—Gourds are still widely used. They are picked when ripe, cleaned out, and dried. With small openings, they serve as containers for beverages and powdered lime. Some are made into bowls and others are cut up to make spoons. Today these objects are undecorated, but formerly in Timaná they were painted with a resin varnish very similar to that used in Pasto. (See p. 930.) Before the Spanish domination, gourds were also used as frames over which were stretched the prepared skin of the heads of their enemies killed in war.

**Metallurgy.**—The metallurgy of these Indians was the same as that practiced throughout most of Colombia. The metals were gold, copper, and an alloy of the two (tumbaga). It is recorded that the Indians "worked gold," but the processes are not described. Specimens found recently in the territory, however, show molding, casting, and hammering. Metal objects included nose ornaments, parrot-shaped breastplates, necklaces with small animal figures, and some anthropomorphic idols. Gold occurs in this territory, particularly on the upper Páez or the Suin River.

**Ceramics.**—These tribes made and still make coiled pottery. Modern vessel forms include large jars for storing beverages and poorly shaped, crudely decorated containers for preparing and serving food. There is no individual specialization in this task, women making pots for their own family and not for trade.

**Stone and wooden artifacts.**—The native Indians made stone axes of a simple design, but stonework disappeared during the time of colonization, when the Indians could obtain manufactured iron weapons and utensils such as machetes, axes, hoes, shovels, etc. The manufacture of wooden objects—weaving, cooking, and farming implements and weapons—was furthered by the use of metal tools, and now is well developed, as exemplified by the trapiche (cane mill), a true machine made of wood.

**Weaving.**—Weaving, little practiced before the Conquest, developed with the post-Contact need for wearing more clothes and with the introduction of sheep, whose wool was used in addition to cotton. Weaving was and is exclusively the work of women (pl. 186). They prepare fine, uniform yarn with a common spindle, which they handle as they walk along the road (pl. 187, *top*). The loom is vertical, made of two horizontal rods fastened to two uprights. The warp runs vertically with a continuous thread. The horizontal weft is pressed down with a wooden sword. They also weave hemp bands on the loom. Woolen blankets are woven in natural colors, but some sashes have bright colors made of imported wool or of home-dyed wool. For red, they use one of the Rubiaceae (*Relbunium hypocarpium*), and for

7:Hernández de Alba E-8 (no date) 1948 SC15 Paez SC15
Moguex



286 [386] blue, the fruit of the jagua palm (kii), probably *Genipa* sp. A woven fabric is made black by burying it for several days with clay and branches of a *Phyllanthus* which they call "sal."

[531] They make woolen bags by hand, using a kind of crochet technique without needles, and decorate them with rectangular and rhomboid figures. Some bags are made of hemp (fique), in which case the stitches are larger and the article has greater elasticity.

411 **Weapons.**—For weapons, the *Páez* used large, thick lances of black [824] or chonta palm, 20 to 25 palms or more long, clubs or macanas, stones [171] thrown with slings, large rocks rolled down from heights, spear throwers like those used by the *Chibcha*, and shields of jaguar, puma, or [197] bear skin. The *Páez* quickly adopted iron arms from the Spaniards, and in the last wars of the Conquest they used steel swords and knives. [172] In a recently discovered grave were copper bells, a golden breastplate, shield bars of tumbaga, a Spanish dagger, and a curved knife of the Arabian or north African type used by the conquistadors.

[223] Today the *Páez* use the club or macana, ordinary guns, machetes, knives, and, for killing birds, the blowgun.

354 **Fire making.**—Fires are generally made today with flint and steel, [372] but some Indians use modern matches. For both heating and cook- [177] ing, the fire is made on the ground in the main house, surrounded by stones which help support the pots. It is covered at night, and almost never goes out.

354 Illumination is provided not only by the fire but by candles made of 824 wax from the wax palm and from seeds of a wild laurel. The latter [388] are cooked and pressed in a bag so that the wax drips into a half calabash or pot to form a semispherical lump. It is melted to make candles with cotton wicks. The *Páez* use these themselves and also sell them, for they are superior to candles made of animal tallow. A cruder means of lighting consists of transfixing a large number of "higuerilla" seeds on a long, thin bamboo splinter. When the splinter is laid horizontally and lighted, the first seed burns strongly, after which the flame passes from seed to seed, lasting some 15 minutes and throwing a fair light a few feet around.

## COMMERCE

438 Each week a market is held in the municipio or in some of the small 439 native villages (pls. 190, 191). The Indians sell vegetables, tortillas, eggs, chickens, and laurel wax, and buy salt, brown sugar, and espe- [435] cially lime (mambe) to be chewed with coca. Each product has a price in Colombian money, whether by quantity or weight. The unit [804] of weight is called an "egg," and more or less equals the weight of a chicken egg. After his few customary transactions, paid for either in [273] cash or in terms, in which the future coffee crop is mortgaged to the